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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/690,110	10/16/2000	Madhusudhana H.S. Murthy	26530.00 (IDR-457)	1425

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EXAMINER

GURSHMAN, GRIGORY

ART UNIT	PAPER NUMBER
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2132

DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/690,110

Applicant(s)

MURTHY ET AL.

Examiner

Grigory Gurshman

Art Unit

2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/27/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant argues that Office action apparently fails to address claims 4, 5, 6, 8, 9, 11, 13, 15, 16 and 18. Examiner points out that the art of record has been applied to the independent claims 1, 7, 12 and 17 and all claims dependent from these claims. The explanation of how the art of record is applied to the claims 4, 5, 6, 8, 9, 11, 13, 15, 16 and 18 is provided herein.
2. Referring to the claims 1-6 Applicant argues that Strickler fails to teach updating values of the validation token and the key into the record of the audit trail. Examiner points out that Strickler shows that the token is integrated in the audit trail (see Figs. 10 a and b). The integrated token values are represented by TRANIDs. Applicant further argues that Cordery fails to teach validation tokens based on an encryption key pair. Examiner respectfully disagrees and points out that Cordery explicitly teaches that the independent keys are used for generating the digital tokens.
3. Examiner also points out that Applicant direct his arguments towards each of the references individually while the references have been applied as a combination.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).
4. Referring to claims 7-11, Applicant argues that Strickler and Cordery fail to teach computing the values of the validation tokens. Examiner points out that Strickler teaches

that the integrated token values are represented by computed TRANIDs. Strickler also teaches "comparing the integrated tokens" by the way of comparing TRANIDs of transactions processed by consumer B with TRANIDs of such transactions as they appear in the audit trail B (see column 26, lines 60-64 and unit 96 in Fig. 11).

With regard to the instant claims applicant also argues that office action fails to address each of the words of the claims. Examiner points out that an appropriately broad but reasonable interpretation of the claim language is applied, therefore art of record is applied according to the interpretation of the claims:

5. Referring to claims 12-21 Applicant argues that there is no motivation to combine the references. In response to applicant's argument that there is no motivation to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case,

One of ordinary skill in the art would have been motivated to modify the system for auditing the changes to a database by comparing the validation tokens as taught in Strickler by having the tokens based on different cryptographic key pairs as taught in Cordery for generating digital tokens (see Cordery, column 2, lines 10-12).

***Claim Rejections - 35 USC § 101***

6. Claims 12 –16 are drawn to a computer program. The instant claims are directed to non-statutory subject matter. The computer program is non-statutory per se if it is not embodied on the computer readable medium.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strickler (U.S. Patent No. 6,122,630) in view of Cordery (U.S. Patent No. 5,661,803).

9. Referring to the instant claims, Strickler discloses database replication scheme (see abstract and Fig.2). Strickler teaches the system having a plurality of nodes connected via communication media in a topology. Each node includes a database and a transaction transmitter or collector, which sends transactions posted to the database to a database at one or more other nodes for replication in the databases of the one or more other nodes. All transactions to be posted to databases in remote nodes that were sent by a local node are detected (see abstract). Strickler teaches that as applications 12 make modifications (e.g., inserts, updates and deletes) to the data in the audited source database 14, TMF (transaction monitoring facility) or TM/MP (transaction

monitoring/massively parallel) records the details of the transactions in audit trail files

18. A shadowbase object or process, known as a "collector" (collector 20) reads the audit trails in the audit trail files 18 and collects changes made to the source database 14 (see Fig.2 and column 2, lines 48-55).

10. Referring to the independent claims 1, 7, 12 and 17, the limitation "initiating the audit trail by generating ... authentication token and... validation token" is met by Fig.6. The "auditor", recited in the instant claims, is met by consumer (38 in Fig. 2). The "writer", recited in the instant claims, is met by unit 54 (in Fig.2). Referring to the limitation "integrating the ... token in the corresponding record of the audit trail", Strickler shows that the token is integrated in the audit trail (see Figs. 10 a and b). The integrated token values are represented by TRANIDs. Strickler also teaches "comparing the integrated tokens" by the way of comparing TRANIDs of transactions processed by consumer B with TRANIDs of such transactions as they appear in the audit trail B (see column 26, lines 60-64 and unit 96 in Fig. 11). Strickler, however, does not explicitly teach validation tokens based on the encryption key pair.

11. Referring to the instant claims, Cordery discloses a method of token verification (see abstract). Cordery teaches that computer (24 in Fig.) records a local time for an audit trail. Cordery also teaches that encryption is performed using a cryptographic key. In each digital meter, independent keys are used for generating the digital tokens.

For security reasons, the keys in different meters are also independent. Information about the meter and mail piece are combined and encrypted with vendor and postal master keys or keys derived therefrom. Portions of the resulting information are printed on the mail piece as digital tokens. The information and tokens can be verified by a

device that processes the information in the same manner and compares the resulting digital tokens with those printed on the mail piece (see column 2, lines 7-20).

Therefore, at the time the invention was made, it would have been obvious to one of ordinary skill in the art to modify the system of Strickler for auditing the changes to a database by comparing the validation tokens by having the tokens based on different cryptographic key pairs as taught in Cordery. One of ordinary skill in the art would have been motivated to modify the system for auditing the changes to a database by comparing the validation tokens by having the tokens based on different cryptographic key pairs as taught in Cordery for generating digital tokens (see Cordery, column 2, lines 10-12).

12. Referring to claim 2, Strickler teaches storing the values of the token in the record of audit trail (see Fig.6).

13. Referring to claims 3, 5, 9, 14 and 19, it is well known in the art to concatenate encryption keys and use the concatenation result as an encryption key. For example, it is commonly used in the key combining registers. One of ordinary skill in the art would have been motivated to concatenate encryption keys and use the concatenation result as an encryption key for increasing the strength of the encryption process.

14. Referring to claims 7, 12 and 17, the limitation "the auditor has the ability to compute the values of the validation token in order to detect tampering" is shown in Fig. 2 of Strickler. Strickler shows the collector (36) which collects the TRANIDs (i.e. tokens) from audit trail and compares them with the ones from restart file (27A) in order to detect changes.

15. Referring to claim 4, Cordery teaches that encryption is performed using a cryptographic key. In each digital meter, independent keys are used for generating the digital tokens (see column 2). The key are stored in a secured storage (i.e. meter).

16. Referring to claim 6, Cordery teaches that validation token is generated on public private key pair of two entities.

17. Claims 12 -16 are drawn to a computer program and are rejected for the same reason as corresponding claims drawn to a method.

### ***Conclusion***

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Grigory Gurshman whose telephone number is (571)272-3803. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (571)272-3799. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



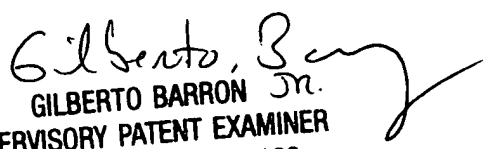
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GG

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